



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/758,779	01/16/2004	David B. Small	9968-23U1	6327

570 7590 01/11/2010  
PANITCH SCHWARZE BELISARIO & NADEL LLP  
ONE COMMERCE SQUARE  
2005 MARKET STREET, SUITE 2200  
PHILADELPHIA, PA 19103

EXAMINER
----------

HADIZONOOZ, BANAFSHEH

ART UNIT	PAPER NUMBER
----------	--------------

3715

NOTIFICATION DATE	DELIVERY MODE
-------------------	---------------

01/11/2010

ELECTRONIC

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

usptomail@panitchlaw.com

<b>Office Action Summary</b>	<b>Application No.</b> 10/758,779	<b>Applicant(s)</b> SMALL ET AL.	
	<b>Examiner</b> Banafsheh Hadizonooz	<b>Art Unit</b> 3715	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 21 September 2009.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1,3-9,13-24 and 26-34 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1, 3-9, 13-24, 26-34 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)         | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)         | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____   | 6) <input type="checkbox"/> Other: _____                          |

***Detailed Action***

In response to the amendment filed on 09/21/2009, claims 1, 3-9, 13-24, 26-34 are pending. This office action is made Non-Final.

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

**Claims 1-9, 13-17, 29, 30-32 are rejected under 35 U.S.C. 103(a) as being unpatentable over Inoue et al.(US 5,831,600) in view of Sims (US 6,657,616 B2) and further in view of Ohara et al. (US 5,485,176).**

[Claim 1, 14, 15]: Inoue discloses a system comprising a scanning circuit (e.g. Oscillation circuit) that scans the circuit at the frequencies defined by the control system; a control circuit (e.g. CPU) in communication with the signal scanning circuit, and AC/DC converter (See Figure 1), wherein the system is configured to detect a human finger when the finger enters the electric field (See Abstract and Col.3, 41-Col.4, 5 and claim 1). Inoue further discloses that the input device comprises a matrix of conductive lines arranged as a plurality of spaced apart column conductive lines separated by an electrically inclusive sheet from row of conductive lines wherein the scanning signal is input into the specific column conductive line according to a

Art Unit: 3715

predetermined input sequence as directed by a first and second coordinated control signal outputted by a control circuit (see Col.4, 60-Col.5, 13). Inoue does not specifically disclose that the scanning circuit works at radio frequency range. However, Sims discloses a capacitive touch circuit comprising a series of conductors and RF signal receiver, wherein the decrease in the received signal strength is detected as the result of the presence of a stylus or finger (See Col.2, 51-Col.3, 20). Therefore, it would have been obvious to one of ordinary skill in the art to modify the Inoue's invention to include the radio frequency scanning feature of Sim's invention in order to design a system that is more sensitive to touch and less prone to malfunctioning.

Inoue/Sims do not disclose an audible output device in communication with the control circuit that outputs audible messages. However, Ohara discloses an information display system comprising a matrix of conductive lines (See Fig.3) wherein upon selection of an indicia by a user the audio outputs associated with said indicia is retrieved from the memory and outputted through a speaker (See Abstract and fig. 1). Therefore, it would have been obvious to one of ordinary skill in the art to modify Inoue/Sims invention according to the teachings of Ohara to incorporate the audible output device in order to design a system that can be used for educational purposes.

[Claim 3]: Regarding claim 3, Sims further discloses a RF scanning circuit comprising a RF oscillator (See Col.3, 62-64).

[Claims 4, 5]: Regarding claims 4 and 5, Inoue further discloses that the scanning circuit comprises an input/output switching device (e.g. multiplexer) which routes the signal generated by the oscillator to each of the conductive lines according to

Art Unit: 3715

the predetermined sequence, and is in communication with the control circuit (e.g. CPU) and the conductive lines (Col.1, 60-Col.2, 15).

[Claims 6-9, 29]: Regarding claims 6 and 9 Inoue further discloses wherein the scanning circuit that is connected to amplifying and filtering circuit before routing the signal to control circuit for analysis. Inoue does not specifically disclose that the filtering circuit is a band pass filter. However, it would have been obvious to one of ordinary skill in the art to use a band-pass filter before routing the signal to A/D converter and the control circuit in order to limit the signal frequency to a certain range and create a clear digital signal.

[Claim 7]: Regarding claim 7, Inoue discloses the amplified and filtered coupled RF signals that are AC voltage sine wave signals (See [0046]).

[Claims 8, 17]: With respect to claims 8, and 17, Sims teaches amplifying and filtering the coupled RF signal and AC to DC converter (See figure 1, element 21).

[Claim 13]: Regarding claim 13, Inoue discloses a microcontroller (e.g. host computer).

[Claims 16]: Regarding claim 16, Inoue further teaches analyzing one or more electrical characteristics of the coupled RF signal after an RF signal is input into all of the column conductive lines (See Col.5, 50-59).

[Claims 30-32]: Regarding claim 30, Inoue/Sims discloses inputting predetermined RF frequencies into the conductive lines and outputting a RF signal at the predetermined frequency (See 'Inoue' Col.1, 60-Col.2, 34). Inoue further discloses that the memory stores the received signals from the conductive lines and control circuit

Art Unit: 3715

(See Col.6, 27-30) and uses the values as a base line to compare with the signals that are received later (See Col.6, 31-40).

**Claims 18, 19, 20-24, 26-28, 33 and 34 are rejected under 35 U.S.C. 103(a) as being unpatentable over Inoue et al.(US 5,831,600) in view of Sims (US 6,657,616 B2) further in view of Ohara (US 5485176) as applied to claim 1 above and further in view of Westerman et al. (US 6,323,846).**

[Claims 20, 21, 23, 24, 26, 28, 33 and 34]: Inoue discloses a system comprising a frequency scanning circuit; a control circuit (e.g. CPU) in communication with the signal scanning circuit and AC/DC converter (See Figure 1), wherein the system is configured to detect a human finger when the finger enters the field (See Abstract, Col.3, 41-Col.4, 5 and claim 1). Inoue further discloses a memory in communication with the control circuit (See Col.6, 22-30 and figure 3, S11). Inoue further discloses that the input device comprises a matrix of conductive lines arranged as a plurality of spaced apart column conductive lines separated by an electrically inclusive sheet from row of conductive lines wherein the scanning signal is input into the specific column conductive line according to a predetermined input sequence as directed by a first and second coordinated control signal outputted by a control circuit (see Col.4, 60-Col.5, 13). Inoue does not specifically disclose that the scanning circuit works at radio frequency range. Sims discloses a capacitive touch circuit comprising a series of conductors and RF signal receiver, wherein the decrease in the received signal strength is detected as the result of the presence of a stylus or finger (See Col.2, 51-Col.3, 20). Therefore, it would have been obvious to one of ordinary skill in the art to modify the Inoue's invention to

Art Unit: 3715

include the radio frequency scanning feature of Sim's invention in order to design a system that is more sensitive to touch and less prone to malfunctioning.

Inoue/Sims do not disclose an audible output device in communication with the control circuit that outputs audible messages. Ohara discloses an information display system comprising a matrix of conductive lines (See Fig.3) wherein upon selection of an indicia by a user the audio outputs associated with said indicia is retrieved from the memory and outputted through a speaker (See Abstract and fig. 1). Therefore, it would have been obvious to one of ordinary skill in the art to modify Inoue/Sims invention according to the teachings of Ohara to incorporate the audible output device in order to design a system that can be used for educational purposes.

Inoue/Sims/Ohara does not specifically disclose a control circuit to detect and select among the plurality of human fingers. Westerman discloses a method for integrating manual input on a touch screen display, wherein the system is capable of detecting the presence of multiple fingers (See Abstract and Col.9, 37- col.10 38). Inoue/Sims/ Ohara/ Westerman do not specifically disclose selecting the most northern finger among the plurality of fingers. However, while features of an apparatus may be recited either structurally or functionally, claims directed to an apparatus must be distinguished from the prior art in terms of structure rather than function. A claim containing a "recitation with respect to the manner in which a claimed apparatus is intended to be employed does not differentiate the claimed apparatus from a prior art apparatus if the prior art apparatus teaches all the structural limitation of the claim.

Therefore, it would have been obvious to one of ordinary skill in the art to modify Inoue/Sims/ Ohara's invention based on the teachings of Westerman in order to design an interactive display system that is suitable for young children who frequently touch the display screen with multiple fingers.

[Claims 18 and 19]: Regarding claims 18 and 19, Westerman further discloses the control circuit is configured to configure and analyze a single human finger presence among a plurality of possible human finger presences detected by the scanning circuit( See Abstract and Col.9, 37- col.10 38).

[Claims 22 and 27]: Regarding claims 22 and 27, Ohara discloses an interactive book that retrieves audible messages from memory in response to selection of indicia (See Abstract and fig.1). Ohara does not specifically teach providing instructions to the user. However, since Ohara's system is directed to children, it would have been obvious to include some sort of instruction to direct the child to the next action because such addition would have been considered a matter of design choice.

### ***Response to Arguments***

Applicant's arguments with respect to claim rejections under 35 U.S.C 103(a) have been considered but are moot in view of the new ground(s) of rejection.

The Declaration under 37 CFR 1.132 filed 9/21/2009 is sufficient to overcome the 35 USC 103 rejection set forth in the previous office action. However, the declaration is not effective to overcome the new grounds of rejection set forth in this office action.

### ***Conclusion***



Art Unit: 3715

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Banafsheh Hadizonooz whose telephone number is 571-272-1242. The examiner can normally be reached on 8:00-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Xuan Thai can be reached on (571) 272- 7147. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

BH

/Cameron Saadat/  
Primary Examiner, Art Unit 3715